

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Original): A filtering device for filtering a riverbed of a river having natural river or tidal currents and a natural flow of silt or mud comprising:

an enclosure to be placed underwater on the riverbed to create a partial barrier to the natural river or tidal currents and to create a partial barrier effect to the natural flow of silt or mud in the river but structured to rest unobtrusively on the riverbed so that navigation or the river itself is not obstructed by the enclosure and wherein turbidity of the silt or mud is substantially not created in the river due to containment provided by the enclosure;

at least one entrance opening located in the enclosure for allowing river water carrying riverbed silt or mud to flow into the entrance opening via the natural river or tidal currents and via the partial barrier effect to the natural flow of silt or mud in the river;

a chute for directing the river water upwards through the interior of the enclosure;

an exit opening located at the top of the enclosure for exiting the river water from the enclosure;

a hole located in the chute for separating the silt or mud via inertia, gravity, and differences in weight between the river water and the mud or silt, to the bottom of the enclosure while directing the river water to proceed up the chute to the exit opening; and

a suction device connected to the bottom of the enclosure for suctioning out any silt or mud collected in the bottom of the enclosure.

Claim 2 (Original): The filtering device of claim 1 wherein:
the enclosure is trapezoidal in shape and made of concrete.

Claim 3 (Original): The filtering device of claim 1 wherein:
a second chute is located before the exit opening in order to provide a second filtering step and to separate more of the silt or mud from the river water.

Claim 4 (Original): The filtering device of claim 1 wherein the chute is dimensioned to filter PCB matter carried with the silt or mud.

Claim 5 (Original): The filtering device of claim 1 further comprising:
a plurality of the enclosures placed in an array so that additional water borne silt can be filtered and directed amongst the array of enclosures.

Claim 6 (Original): A device for filtering water borne silt from water in a waterway having natural water currents and a natural flow of silt in the waterway comprising:
an enclosure placed underwater on the bottom of the waterway to form a partial barrier to the natural water currents and a partial barrier to the natural flow of silt at the bottom of the waterway wherein the enclosure is dimensioned so that navigation or the waterway itself is not obstructed;

at least one entrance opening located in the enclosure for allowing water to flow via the natural water currents so that the water borne silt flows into the entrance opening;

a chute for directing the water and the water borne silt upwards through the interior of the enclosure using the natural water currents;

an exit opening located at the top of the enclosure for exiting the water; and

a hole in the chute for filtering the water in the chute by separating the water borne silt from the water via gravity and via inertia, and for directing the separated water borne silt to the bottom of the enclosure while also allowing the water to proceed up the chute to an exit opening without causing excessive turbidity.

Claim 7 (Currently Amended): The filtering device of claim 1, ~~further comprising:~~ wherein the suction source is a powered pump located downstream from the enclosure to augment the natural current flow and to drive the water through the enclosure.

Claim 8 (Currently Amended): The device of claim 6, ~~further comprising:~~ wherein the suction source is a powered pump located downstream from the enclosure to augment the natural current flow and to drive the water through the enclosure.

Claim 9 (Original): The device of claim 6 further comprising:
a plurality of the enclosures placed in an array so that additional water borne silt can be filtered and directed amongst the array of enclosures.

Claim 10 (Currently Amended): A method for filtering water borne silt from water in a waterway having natural water currents and a natural flow of silt in the waterway comprising:

placing an enclosure underwater on the bottom of the waterway to form a partial barrier to the natural water currents and a partial barrier to the natural flow of silt at the bottom of the waterway wherein navigation or the waterway itself is not obstructed;

allowing water to flow via the natural water currents through at least one entrance opening located in the enclosure so that the water borne silt flows into the entrance opening;

directing the water to a chute for directing the water and the water borne silt upwards through the interior of the enclosure using the natural water currents;

placing an exit opening located at the top of the enclosure for exiting the water; and

filtering the water by placing a hole in the chute for separating the water borne silt from the water via gravity and via inertia, and for directing the separated water borne silt to the bottom of the enclosure while also allowing the water to proceed up the chute to the exit opening.

Claim 11 (Currently Amended): The method of ~~claim 1~~ claim 10 further comprising:

suctioning out the separated water borne silt collected in the bottom of the enclosure via a suction device connected to the bottom of the enclosure.

Claim 12 (Original): The method of claim 10 further comprising:

placing a plurality of the enclosures in an array so that additional water borne silt can be filtered and directed amongst the enclosures.

Claim 13 (Original): The method of claim 10 further comprising:

leaving the enclosure underwater for a period of months or years.

Claim 14 (Original): The method of claim 11 further comprising:

suctioning out the separated water borne silt collected in the bottom of the enclosure via a suction device connected to the bottom of the enclosure for a time period of about four hours every day;

allowing the enclosure to refill with water borne silt.

Claim 15 (Original): The method of claim 10 further comprising:

an additional filtering step wherein any of the water borne silt which is not separated at the chute opening proceeds upward and is separated via gravity and inertia from the water by a second chute opening located before the exit opening.

Claim 16 (Currently Amended): The method of ~~claim 11~~ claim 12 further comprising:

strategically placing the plurality of enclosures using a global positioning system so that the array formed is mapped and adjusted to optimize the performance of the array.